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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/270,688 03/16/99 YOUNG D 2407-0004

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QM12/0727

EXAMINER

ERGENBRIGHT, E

ART UNIT

PAPER NUMBER

3722

DATE MAILED: 07/27/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/270,688

Applicant(s)

Young et al.

Examiner

Erica Ergenbright

Group Art Unit

3722

☒ Responsive to communication(s) filed on May 9, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1, 3, 4, and 6-29 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 3, 4, 6-16, and 20-29 is/are rejected.

☒ Claim(s) 17-19 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Mar 16, 1999 is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on May 9, 2000 is ☒ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 3722

DETAILED ACTION

1. This is a second action, final, for application number 09/270,688, in response to Applicant's amendment, filed May 9, 2000.

Specification

2. On page 2 of applicant's amendment to the specification, filed May 9, 2000, the amendment to page 14 could not be entered, as no line number was provided to indicate where the amendment should be entered.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: step 8, shown in Figure 24. Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7-16, and 20-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,237,520 (hereinafter White) in view of U.S. Patent No. 5,449,256 (hereinafter Sundman). White discloses a system for forming custom footwear products, including insoles (column 3, line 45), where the system includes a

Art Unit: 3722

scanning station 134 that has an optical scanning head 160 that slides in track 162 to scan the undersurface of a foot (column 7, lines 34-36) when the foot is placed on a reference surface 170. Scanning the foot produces a three-dimensional topographical image of a foot undersurface (column 5, lines 6-8). The scanning unit 134 may be a laser-optic scanner (column 5, lines 45-47). The optical scanning head scans the undersurface of the foot through reference surface 170. Therefore the reference surface 170 is transparent. It is therefore inherent that reference surface 170 is made of tempered safety glass, because the benefits of tempered safety glass are well-known. This scanning unit 134 may be in communication with a computer control means in the form of a CAD/CAM machine (column 3, lines 49-60) that receives and processes the scanned foot data, and then communicates the processed data to a production machine 112 to produce a custom footwear product, such as an insole (column 3, line 45). White's system includes a display 122 and an input device 126 for entering and displaying customer information (for example, column 9, lines 42-46). White generically teaches the use of a production machine 112 to produce custom footwear products. White does not specifically teach a three-axis milling machine to mill custom shoe insoles, nor does White teach the specific orientations of the computer, display device, input device, or production machine. White's production machine, however, is at a separate location from the scanning device (column 3, lines 64-66), and thus there is a lag time between when a person's foot is scanned, and when that person receives their custom footwear product.

Art Unit: 3722

Sundman teaches a system for use in an office environment for milling custom shoe insoles, where this system includes a foot contour measurement machine (column 1, lines 42-43) and a mill 10 for machining the insoles. The mill has a disk drive 15 for receiving the foot contour measurement data, which then controls the x, y, and z, movements of the milling head 21 to produce a desired insole contour (column 5, lines 27-34). To mill the insole, an insole blank 11 is mounted to a support tray 12. The relative motion in x, y, or z directions between the milling cutter and the insole blank may be achieved by moving the insole blank/tray, and/or by moving the milling head (column 3, lines 25-37). Motion of the milling head 21 and/or the motion of the tray 12 is controlled by stepper motors 51, 55, and 510 that act in response to the data inputted from the contour measurement machine. Sundman's milling station also includes a particle control system with positive-pressure air flow (column 7, lines 39-41) generated by fans, so that particles may be collected in tray 14 and disposed of. The air and the particles flow through channels 67-69, which, being enclosed and having higher pressure than that of the outside air, constitute plenums. The entrance 62 to these plenums is disposed in the vicinity of the milling assembly (column 7, lines 61-62). The velocity of the air flow through each channel is inversely proportional to the volume of air flowing through each channel (column 8, lines 35-41). The air flow velocity is sufficient to eliminate particulate flux from the milling cavity (column 7, lines 45-48). According to the current

Art Unit: 3722

application on page 7, line 24, the velocity of the air flow must be low enough to grab the debris particles, which Sundman's velocity is.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted Sundman's milling machine that operates in response to collected foot contour data for the production machine taught by White, for the purpose of being able to produce custom shoe insoles while a customer waits, and thus eliminating the lag time between the time the customer's foot is scanned and the time they receive their custom shoe insoles. It would further have been obvious to one having ordinary skill in the art at the time the invention was made to have moved the computer disk drive of the milling station, taught by Sundman, to the lower portion of the milling station, and to have placed the display device and the input device, taught by White, near the milling station, and to have placed the milling assembly, taught by Sundman, in an upper portion of the milling station, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

6. Claims 1, 3-4, and 6, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over White and Sundman as applied to claim 1 above, and further in view of Applicant's admission of prior art on page 8, lines 11-15. White and Sundman disclose all of the elements as claimed in claims 1-4 and 6, as described above, except for the following: the specific step of directing a line, particularly a non-focused fan-shaped

Art Unit: 3722

line of laser light along the undersurface of the foot, and scanning the undersurface of the foot using a plurality of laser scanning units. In the specification on page 8, lines 11-15, Applicant admits that the specifics of the laser technology used in the laser scanners is known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have scanned the necessary portions of the foot with a line, or specifically, a non-focused fan-shaped line of laser light. It would further have been obvious to one having ordinary skill in the art at the time the invention was made to have used multiple laser scanners to scan the undersurface of the foot instead of just one, as taught by White, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Allowable Subject Matter

7. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed May 9, 2000 have been fully considered but they are not persuasive.
9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the

Art Unit: 3722

specifics of the laser technology, as argued by applicant on page 7, paragraph 5 of the amendment filed May 9, 2000) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's assertion that U.S. Patent No. 5,237,520 (White) does not scan the undersurface of the foot with at least one laser scanning unit, applicant's attention is directed to column 5, lines 45-47, as described in the 103 rejection based thereon. In response to applicant's assertion that White does not measure surface coordinates of the undersurface of the foot, applicant's attention is directed to column 5, lines 6-8, as described in the above 103 rejection based thereon. Applicant's attention is also directed to column 6, lines 22-32, which outlines the step of the central computer 120 determining coordinates of the foot (e.g., "Preferably, those portions of the scanned foot image which have been determined to be closest to the scanner 134 surface by central computer 120 ..."). Additionally, White teaches that the foot measurement information is transferred to a CAD/CAM machine 110 which "electronically receives the scanned feet data" and "from the received data the CAD/CAM machine 110 generates machine control code" (column 3, lines 49-60, as described in the above 103 rejection). Inherently, the CAD/CAM machine must be receiving foot coordinate information of

Art Unit: 3722

some sort in order to generate machine control code based on the electronically-received "scanned feet data".

10. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3722

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica Ergenbright whose telephone number is (703) 308-6395. The examiner can normally be reached on Monday through Thursday from 7:30 a.m. to 5:00 p.m, and every other Friday from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached at (703) 308-2159. The fax number for TC 3700 is (703) 305-3579. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 3700 receptionist whose telephone number is (703) 308-1148.

ee,
eh
July 25, 2000

A. L. Wellington
A. L. WELLINGTON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700